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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,100	03/19/2002	Michel Jurgen	112740-242	8112

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EXAMINER	
MICHALSKI, JUSTIN I	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/889,100	JURGEN ET AL.	
	Examiner	Art Unit	
	Justin Michalski	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 0204*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *37* is/are allowed.

6)☒ Claim(s) *19,22-28,30-36* is/are rejected.

7)☒ Claim(s) *20,21,29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks 21 September 2004, with respect to the rejection(s)of claim(s) 19-28 and 30-36 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Faltys et al. ("Faltys") (US Patent 6,308,101).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 19, 25-27, 30, and 33-36 is rejected under 35 U.S.C. 102(e) as being anticipated by Faltys.

Regarding Claim 19, Faltys discloses a passive microphone for wirelessly transmitting sound information to a receiving unit (136), comprising: an antenna (220) that receives electromagnetic excitation energy (Col. 11, lines 17-21) from the receiving unit (136) and wirelessly transmits electrical signals (i.e. diagnostics, Col. 8, lines 56-67) to the receiving unit (136); and a piezoelectric device (210, Col. 14, lines 15-19) that is

connected to the antenna (220) such that the piezoelectric device receives and stores electromagnetic excitation from the antenna (power in 216), wherein detected acoustic signals are converted into electrical signals bearing sound information.

Regarding Claim 25 and 30, the piezoelectric device will inherently comprise a surface acoustic wave delay line as the acoustic waves propagate across the diaphragm.

Regarding Claim 26, Faltys further discloses the piezoelectric device comprises a first device for detecting acoustic signals (218) and a second device for storing the electromagnetic excitation energy and for converting detected acoustic signals into electrical signals bearing sound information (216 and 214).

Regarding Claim 27, Faltys further discloses the first device includes diaphragm (218; Col. 14, lines 15-19).

Regarding Claim 33 and 34, Faltys further discloses the piezoelectric receives electromagnetic excitation energy from the receiving unit in the form of short and periodically repeated high-frequency signals (i.e. ac carrier signal Col. 6, lines 65-67).

Regarding Claim 35 and 36, Faltys further discloses the piezoelectric device receives the electromagnetic excitation energy from the receiving unit in the form of a large bandwidth time product or continuous frequency-modulated excitation signal (i.e. ac carrier signal Col. 6, lines 65-67).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys as applied to claim 19 above in view of Palfreeman et al. (US Patent 4,065,735).

Regarding Claim 22, Faltys discloses a microphone as stated above apropos of claim 19. Faltys further discloses a diaphragm (Column 4, lines 21-23) but does not disclose the diaphragm having an acoustic wave resonant pattern. Palfreeman et al. discloses a piezoelectric surface having acoustic surface wave resonators arranged (i.e. pattern) on the surface (Column 9, lines 53-59). Palfreeman et al. discloses that resonators can be used as filters when formed with a plate of piezoelectric material (Column 1 lines 32-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use acoustic wave resonant patterns on the surface to take advantage of the filtering properties as taught by Palfreeman et al.

Regarding Claim 23, Faltys further discloses the diaphragm is crystal (Col. 14, line 18).

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys/Palfreeman as applied to claim 22 above, and further in view of Stoner et al. (US Patent 6,127,768).

Regarding Claim 24, Faltys/Palfreeman discloses a microphone as stated above apropos of claim 22 but does not disclose the diaphragm composed of a crystal. Stoner et al. discloses that typical piezoelectric materials include layers of $LiNbO_3$ (i.e. lithiumniobate) to support acousto-electric transduction (Column 1, lines 26-35). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a typical piezoelectric material to support acousto-electric transduction.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys as applied to claim 22 above in view of Stoner et al. (US Patent 6,127,768).

Regarding Claim 28, Faltys discloses a microphone as stated above apropos of claim 27 but does not disclose the diaphragm composed of a crystal. Stoner et al. discloses that typical piezoelectric materials include layers of $LiNbO_3$ (i.e. metal) to support acousto-electric transduction (Column 1, lines 26-35). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a typical piezoelectric material to support acousto-electric transduction.

8. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faltys as applied to claim 19 above, and further in view of Murase (US Patent 5,751,418).

Regarding Claim 31, Faltys discloses a microphone as stated above apropos of claim 19 but does not disclose an additional piezoelectric device. Murase discloses an

electroacoustic transducer (Figure 1) which comprises of two piezoelectric devices (elements 52 and 50) which are differentially converted into an electrical signal (74). Murase discloses that the use of a differential amplifier removes induced noises from the electric signals (Column 1, lines 58-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two elements and a differential signal of the two in order to reduce noise in the electric signal to produce a cleaner output.

Regarding Claim 32, Faltys discloses a microphone as stated above apropos of claim 19 but does not disclose compensation for disturbance variables. Murase discloses an electroacoustic transducer (Figure 1) which differentially converts the differentially converts the output of piezoelectric sensors (52 and 50) into an electrical signal (74). Murase discloses that the use of a differential amplifier removes induced noises (i.e. disturbance variables) from the electric signals (Column 1, lines 58-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two elements and a differential signal of the two in order to reduce noise in the electric signal to produce a cleaner output.

Allowable Subject Matter

9. Claim 37 allowed.

10. Claims 20, 21, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (703)305-5598. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703)305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM

SINH TRAN
SUPERVISORY PATENT EXAMINER